

Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

Claims 1-29 (Cancelled).

30. (Currently amended) A pharmaceutical composition comprising polyclonal F(ab')₂ antibody fragments substantially free from albumin and whole antibodies and substantially free of pyrogens, wherein ~~the said~~ F(ab')₂ antibody fragments are capable of binding binds to a purified molecule or a mixture of antigenic molecules.

31. (Currently amended) The pharmaceutical composition of claim 30, wherein the purified molecule is ~~a cytokine~~ selected from the group consisting of: cytokines, Tumor Necrosis Factors (TNFs), Interferons and venoms of poisonous animals.

32. (Currently amended) The pharmaceutical composition of claim 31, wherein said ~~cytokine~~ Tumor Necrosis Factor is TNF- α .

33. (Currently amended) The pharmaceutical composition of claim 32, wherein said F(ab')₂ antibody fragment neutralizes said TNF- α .

34. (Currently amended) A pharmaceutical composition comprising polyclonal anti-TNF- α F(ab')₂ antibody fragments substantially free from albumin and whole antibodies and substantially free of pyrogens.

35. (Previously presented) A composition comprising the composition of any of claims 30 to 34, further comprising a pharmaceutically acceptable carrier.

36. (Currently amended) A pharmaceutical composition comprising polyclonal F(ab')₂ antibody fragments substantially free from albumin and whole antibodies and substantially free of pyrogens, wherein the F(ab')₂ antibody fragments are obtained by the method which comprises:

(a) contacting a source of antibody with pepsin under conditions to prepare an antibody digest containing F(ab')₂ fragments and being substantially free of unhydrolyzed antibodies;

(b) treating said antibody digest by two steps of ammonium sulfate precipitation,
i) one step at about 16% to about 22% weight by volume ammonium sulfate; and
ii) another step at about 32% to about 38% weight by volume of ammonium sulfate.

37. (Currently amended) A method of treating a cytokine-mediated immune reaction in a patient in need thereof, which comprises parenterally administering to said patient a therapeutically effective amount of the pharmaceutical composition any of claims 30 to 34.

38. (Previously presented) The method of claim 37 wherein said parenteral administration comprises systemic administration.

39. (Previously presented) The method of claim 38, wherein said systemic administration comprises intravenous administration.

40. (Previously presented) The method of claim 38, wherein said systemic administration comprises intramuscular administration.

41. (Previously presented) The method of claim 37, wherein said parenteral administration comprises intraperitoneal administration.

42. (Previously presented) The method of claim 37, wherein said patient is a human who has been exposed to the venom of a poisonous animal.

43. (Previously presented) The method of claim 37, wherein said parenteral administration is repeated at least once.

44. (New) The composition of claim 36, further comprising a pharmaceutically acceptable carrier.

45. (New) The F(ab')₂ antibody fragment composition of claim 30, further wherein said composition is substantially free of viruses.

46. (New) A method for preparing a composition of F(ab')₂ antibody fragments that is substantially free of whole antibodies, comprising:

- (a) generating a source of antibodies from an animal that has been immunized with a complex mixture of antigenic molecules;
- (b) contacting said source of antibodies with pepsin under conditions to prepare an antibody digest containing $F(ab')_2$ antibody fragments wherein said digest is substantially free of unhydrolyzed antibodies;
- (c) treating said antibody digest by two steps of ammonium sulfate precipitation: (i) one step at about 16% to about 22% weight by volume ammonium sulfate to produce a mixture; and (ii) another step at about 32% to about 38% weight by volume of ammonium sulfate; to thereby obtain a suspension containing $F(ab')_2$ fragments substantially free of whole antibodies;
- (d) centrifuging said suspension to produce a composition comprising a paste of $F(ab')_2$ fragments and a supernatant; and
- (e) removing said supernatant from the composition produced in step (d).

47. (New) The method of claim 46, wherein step (b) is performed at a pH between about 6.6 to about 7.0.

48. (New) The method of claim 46 wherein said antibody source is the plasma of an animal, and wherein said animal has been immunized under aseptic conditions.

49. (New) The method of claim 46, further wherein said $F(ab')_2$ antibody fragment composition is substantially free of viruses and pyrogens.

50. (New) The method of claim 46, wherein said step (b)(i) is performed at a temperature of about 51°C to about 59°C.

51. (New) The method of claim 50, further comprising cooling the mixture produced in step (b)(i) to a temperature from about 8°C to about 12°C for at least 2 hours to produce a composition comprising a solution of F(ab')₂ antibody fragments, and precipitated serum proteins.

52. (New) The method of claim 51, further comprising clarifying said F(ab')₂ fragment solution by filtering with a tray filter selected from the group consisting of 12μ, 8μ, 4μ and 0.22μ.

53. (New) The method of claim 46 or claim 48, wherein said resulting F(ab')₂ fragment composition is purified.

54. (New) The method of claim 53, wherein said purification is achieved by dialysis or ultrafiltration.

55. (New) The composition of claim 36, wherein said F(ab')₂ antibody fragments are capable of binding to a purified molecule or a mixture of antigenic molecules.

56. (New) The composition of claim 55, wherein said purified molecule is selected from the group consisting of: cytokines, Tumor Necrosis Factors (TNF), Interferons, and venoms of poisonous animals.

57. (New) The composition of claim 30 or 55, wherein said mixture of antigenic molecules is selected from the group consisting of: spider venoms, scorpion venoms and snake venoms.

58. (New) The composition of claim 57, wherein said snake venom is the venom of a snake that is a member of a genus selected from the group consisting of: *Bothrops*, *Crotalus*, *Agkistrodon*, *Lachesis*, *Micrurus* and *Sistrurus*.

59. (New) The composition of claim 57, wherein said spider venom is the venom of a spider that is a member of the genus *Lactrodectus*.

60. (New) The composition of claim 57, wherein said scorpion venom is from a scorpion selected from the group consisting of: *Centruroides noxius*, *C. limpidus limpidus*, *C. limpidus tecomanus* and *C. suffusus suffusus*.

61. (New) The method of claim 46, wherein said F(ab')₂ antibody fragments are capable of binding to a purified molecule or a mixture of antigenic molecules.

62. (New) The method of claim 61, wherein said purified molecule is selected from the group consisting of: cytokines, Tumor Necrosis Factors (TNFs), Interferons, and venoms of poisonous animals.

63. (New) The method of claim 61, wherein said mixture of antigenic molecules is selected from the group consisting of: spider venoms, scorpion venoms and snake venoms.

64. (New) The method of claim 63, wherein said snake venom is the venom of a snake that is a member of a genus selected from the group consisting of: *Bothrops*, *Crotalus*, *Agkistrodon*, *Lachesis*, *Micrurus* and *Sistrurus*.

65. (New) The method of claim 63, wherein said spider venom is the venom of a spider that is a member of the genus *Lactrodectus*.

66. (New) The method of claim 63, wherein said scorpion venom is from a scorpion selected from the group consisting of: *Centruroides noxius*, *C. limpidus limpidus*, *C. limpidus tecomanus* and *C. suffusus suffusus*.

67. (New) A pharmaceutical composition comprising polyclonal F(ab')₂ antibody fragments substantially free of albumin, viral particles, whole antibodies and substantially free of pyrogens, wherein the F(ab')₂ antibody fragments are obtained by the method which comprises:

(a) generating a source of antibodies from an animal that has been immunized with a complex mixture of antigenic molecules;

(b) contacting said source of antibodies with pepsin under conditions to prepare an antibody digest containing F(ab')₂ fragments wherein said digest is substantially free of unhydrolyzed antibodies;

- (c) treating said antibody digest by two steps of ammonium sulfate precipitation,
- i) one step at about 16% to about 22% weight by volume ammonium sulfate; and
 - ii) another step at about 32% to about 38% weight by volume of ammonium sulfate to thereby obtain a suspension containing F(ab')₂ fragments substantially free of whole antibodies;
- (d) centrifuging said suspension to produce a composition comprising a paste of F(ab')₂ fragments and a supernatant; and
- (e) removing said supernatant from the composition produced in step (d).

68. (New) The composition of claim 67, wherein said composition is capable of neutralizing a purified antigenic molecule.

69. (New) The composition of claim 67, wherein said composition is capable of neutralizing bacterial or plant toxins.

70. (New) The composition of claim 68, wherein said purified antigenic molecule is selected from the group consisting of: cytokines, tumor necrosis factors, and interferons.

71. (New) The composition of claim 67, wherein said composition is capable of neutralizing a mixture of antigenic molecules found in the venom of a poisonous animal selected from the group consisting of: snakes, scorpions and spiders.

72. (New) The composition of claim 71, wherein said venom is the venom of a snake that is a member of a genus selected from the group consisting of: *Bothrops*, *Crotalus*, *Agkistrodon*, *Lachesis*, *Sistrurus* and *Micrurus*.

73. (New) The composition of claim 71, wherein said venom is the venom of a spider that is a member of the genus *Lactrodectus*.

74. (New) The composition of claim 71, wherein said venom is the venom of a scorpion of the family *Butidae*.

75. (New) The composition of claim 74, wherein said scorpion is selected from the group consisting of: *Centruroides noxius*, *C. limpidus limpidus*, *C. limpidus tecomanus* and *C. suffusus suffusus*.

76. (New) The composition of claim 67, wherein said composition further comprises a pharmaceutically acceptable carrier.